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(54) Tamperproof container

(57) A container for housing an article such as a film cassette includes a container body preferably of more or less square cross-section and a light

tight, preferably hinged lid. A locking plunger 12 on the lid cooperates with an opening 15 on the body when the lid is first closed to lock the lid in closed a position from which it cannot be opened without breaking off a tear-off strip 14.

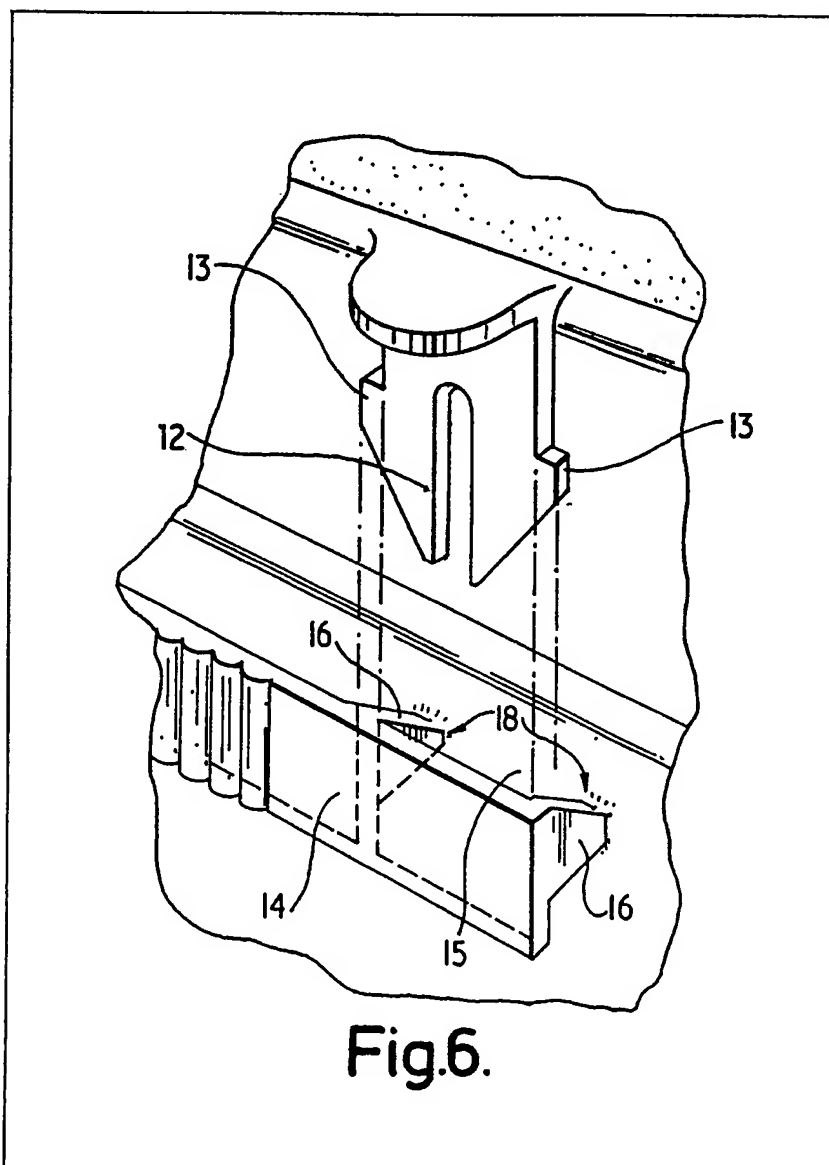


Fig.6.

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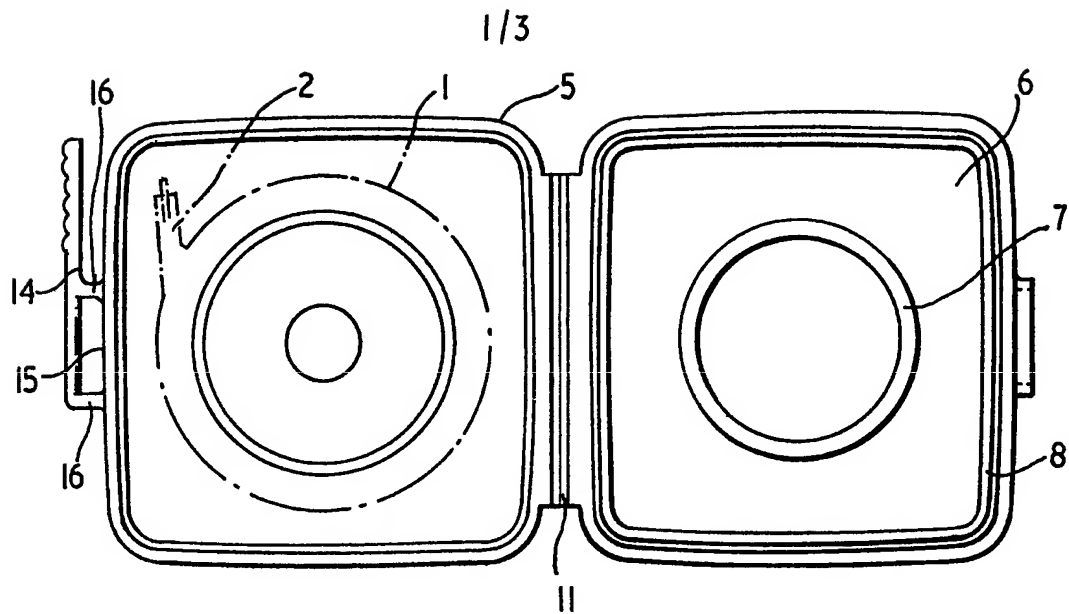


Fig.1.

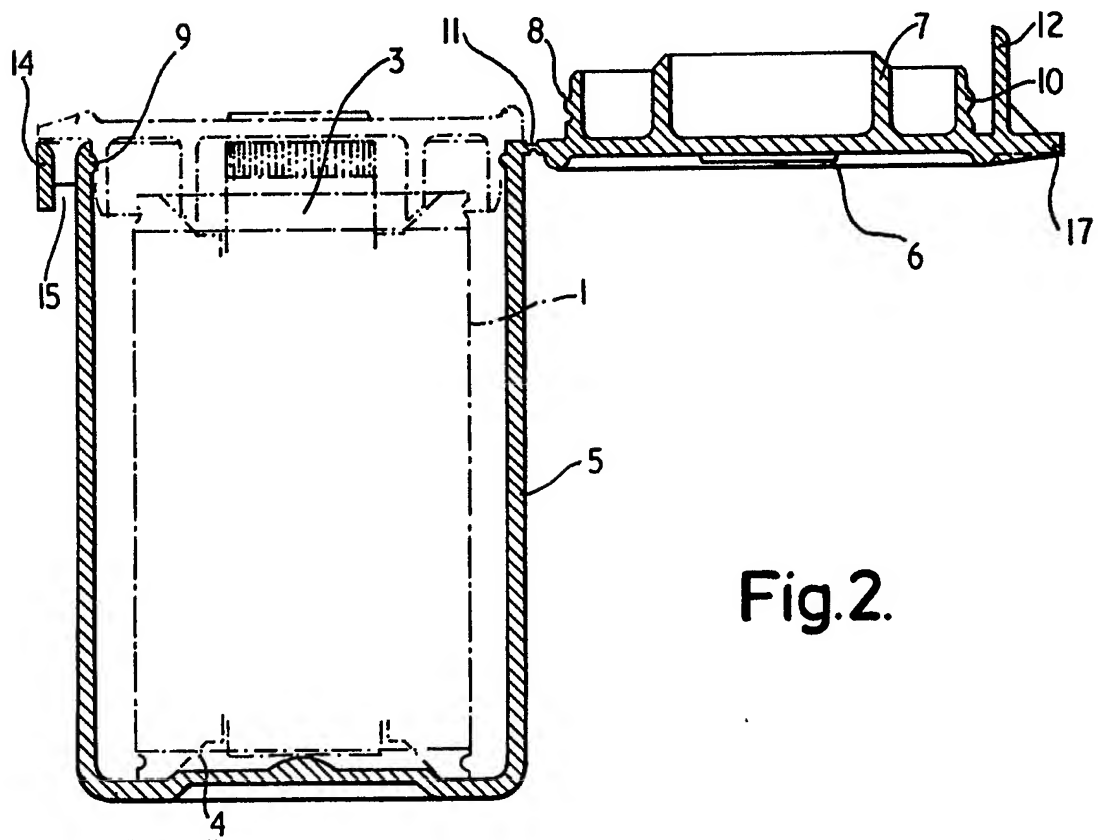


Fig.2.

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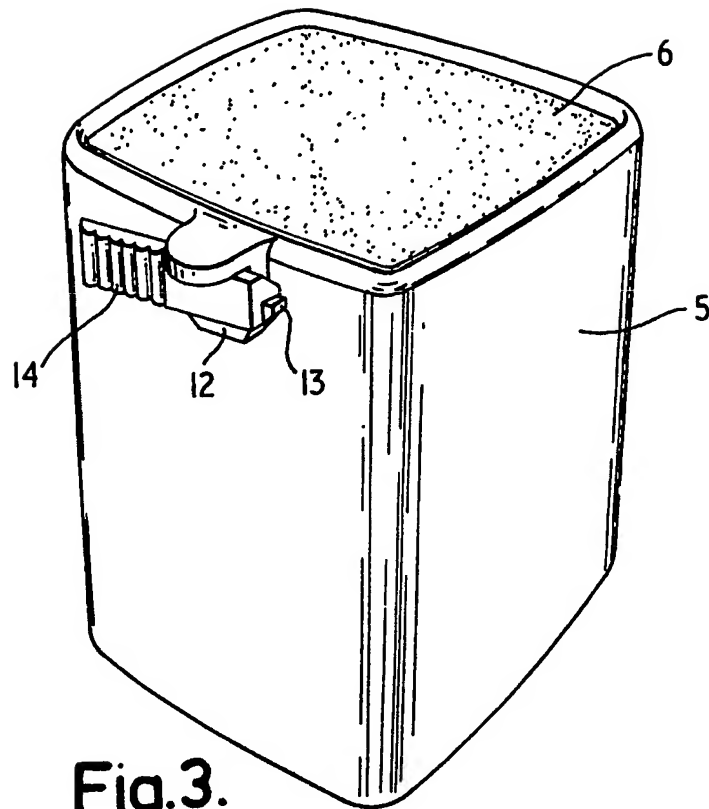


Fig.3.

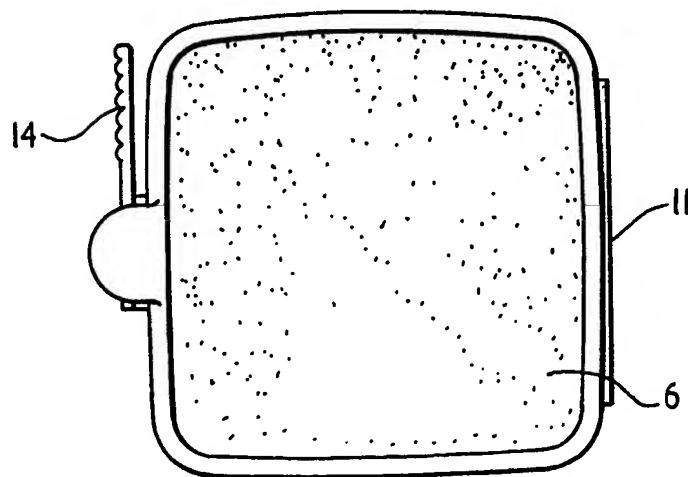


Fig.4.

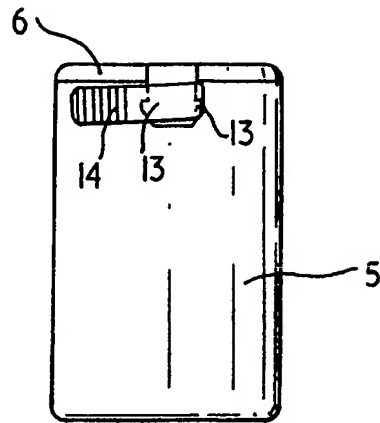


Fig.5.

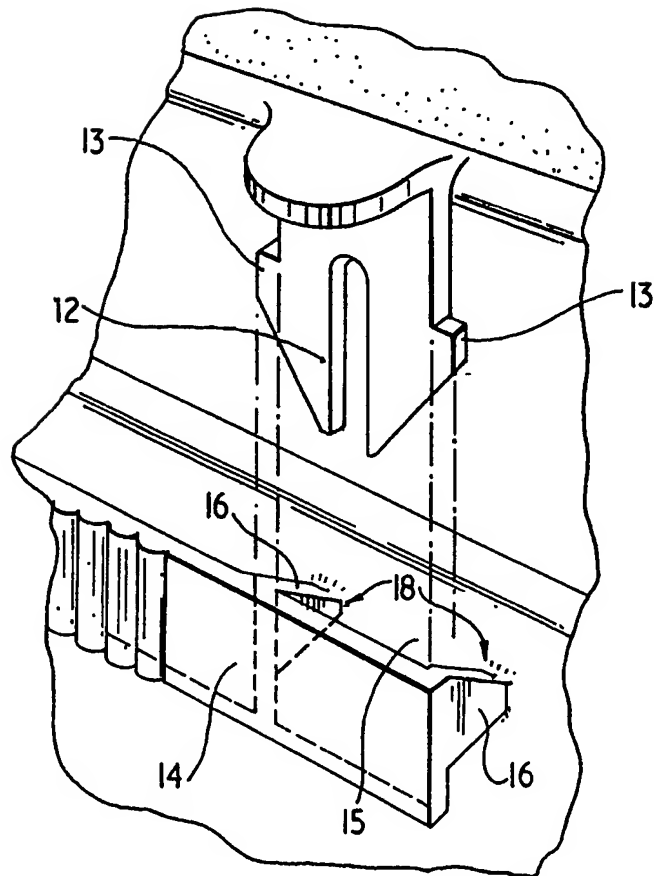


Fig.6.

SPECIFICATION

Improved container assembly

This invention is concerned with the provision of an improved container assembly including a

5 container body and a lid which is preferably hingedly secured to the body. The assembly has been designed especially for holding photographic cassettes but clearly, if desired, the assembly can be used for other purposes.

10 At present photographic cassettes usually include a roll of film e.g. 35 mm film housed within a tubular cassette body which is in turn housed within a light tight metal or plastic tube with a screw or like cap which is finally packed in

15 a square-section carton usually made of cardboard. It has long been realised that this is not a wholly satisfactory method of packing film but the requirements are rather severe and the above method of packing has continued to be used. The

20 requirements include the following:—

1. Light must not be allowed to reach the film.
2. There must be space on the package to allow room for the film type description, advertising, instructions, Trade Marks and so on.

25 In addition it would be desirable to:—

3. Provide the container assembly with a tamper-evident feature,
4. dispense with the cardboard outer carton which really serves little purpose other than to

30 carry letterpress,

5. dispense with the metal tube.

To meet the above requirements we have designed a container assembly, preferably made of a plastics material in which the container body

35 is preferably substantially square in cross-section, the lid being shaped to fit the body of the assembly in a substantially light tight manner, co-operating means being provided on the lid and on the body so that when the lid is first closed on to the body the lid is locked in closed position and

40 cannot be removed or hinged open without breaking a locking tear strip.

More particularly the present invention includes a container assembly for housing a film cassette

45 comprising a container body of substantially square cross-section, a lid hingedly secured to the container body and shaped to fit the body in a substantially light tight manner, first co-operating means being provided on the lid and on the body

50 so that when the lid is first closed on to the body the lid is locked in closed position and cannot be removed or hinged open without breaking a locking strip, and second co-operating means being provided on the lid and on the body so that

55 when the lid is closed subsequent to breakage of the locking strip the lid is still held captive and cannot be released until desired by a user.

In order that the invention may be more clearly understood reference is now directed to the

60 accompanying drawings given by way of example in which:

Figure 1 is a plan view of a container assembly according to the invention with the lid open, a 35 mm film cassette being indicated in dot and

65 dash lines;

Figure 2 is a longitudinal section of Figure 1;

Figure 3 is a perspective view;

Figure 4 is a plan view with the lid shut;

Figure 5 is a side view of the assembly as it will

70 appear in actual size to contain a 35 mm film cassette;

Figure 6 is an enlarged pictorial view showing how a plunger engages with a tear off strip on closing the lid.

75 Referring to the drawings and particularly to Figure 1 it will be seen that a film cassette 1 is circular in cross-section with an exit slot 2. In Figure 2 it will be noted that the cassette is tubular and is shaped at the top 3 and at the

80 bottom 4. Naturally the cassette 1 per se forms no part of the present invention.

The preferred form of the present invention is embodied in a container assembly comprising a container body 5 and lid 6. The body is

85 substantially square in plan, though the corners are rounded, and the body 5 is shaped internally at the bottom to match the shaping of the bottom of the cassette. In this way when the cassette is inserted into the body, the bottom of the cassette

90 and bottom of the body cooperate to correctly position the cassette within the body.

The lid 6 is substantially flat on the top side and is shaped on the underside to match the shaping of the top of the cassette. In the illustrated

95 embodiment the lid 6 has an annular plug 7 which embraces a part of the cassette top and a substantially square skirt 8 to fit within the top of the body. Light tight beads 9 and 10 are provided respectively on the inside of the body 5 and the

100 outside of the skirt 8 to cooperate to prevent light entering the body 5 and to provide a captive feature to hold the lid on the body whenever desired. The lid 6 is hinged to the body 5 at 11.

In order to provide a tamper-evident feature the

105 lid 6 has a locking plunger 12 which depends substantially vertically when the lid 6 is closed and which has lugs 13 which project sideways. The body 5 has a tamper-evident tear-off strip 14 which has an opening 15 to receive the plunger

110 12 when the lid is first closed. The plunger is shaped rather like an arrow head when viewed e.g. as in Figure 6 and it will be understood that the plunger 12 had been forced down into the opening 15 until the lugs 13 engage below arms

115 16 which connect the strip 14 to the body. When in this position the lid cannot be opened until the strip 14 is torn away and the tearing away of either end of the strip clearly indicates that the container assembly has been opened. The arms

120 16 are connected to the body by frangible nibs 18 or the like. A thumb tab 17 is provided by means of which the lid may be manipulated.

It will be understood that the plunger 12 is self-locating in the opening or slot 15 and that the locking action is effected automatically as soon as the lid is closed for the first time. To assist the plunger 12 to spring into position a vertical slot shown in Figure 6 is preferably provided.

The present invention therefore has several

distinct advantages over the existing packages.

(i) the square shape of the pack gives plenty of room on the sides and top for printing or labelling descriptive details, advertising and other matter without the need for an outer cardboard container, and a number of these containers can fit together in a transit or bulk pack without any waste of space;

(ii) the tamper-evident feature warns a photographer that a film may have been exposed to light. In addition it also warns the photographer, who may be using several films, that a box which *subsequently* has a broken tear tab contains a cassette of film which he has already used. This will effectively reduce the risk of double exposure of the film;

(iii) the photographer has quicker access to a new cassette, which can be critical if he is in the midst of some action photography; and

(iv) the presence of the captive lid integral with container helps when the film is initially packed in a darkened room and also helps the photographer when trying to replace the used cassette of film into its container.

We have therefore provided a container assembly that is preferably substantially square in longitudinal section with a container body and a lid hinged to the body at the top. The top is provided with a locking plunger to cooperate with a tear-off strip in such a way that once the lid has been closed it cannot be opened again until the tear-off strip has been removed.

CLAIMS

1. A container assembly comprising a container body and a lid shaped to fit on to the body in a substantially light tight manner characterised by the provision of cooperating means on the lid and on the body so that when the lid is first closed on to the body the lid is locked in closed position and cannot be removed or hinged open without breaking a locking tear strip.

2. A container assembly, for housing e.g. a film cassette, comprising a container body preferably of square cross-section, a lid for the container body preferably hingedly connected thereto, the lid being shaped to fit the body in a substantially light tight manner, first co-operating means being provided on the lid and on the body so that when the lid is first closed on to the body the lid is locked in closed position and cannot be removed without breaking a locking strip and second co-operating means being provided on the lid and on the body so that when the lid is closed subsequent

to breakage of the locking strip the lid is still held captive and cannot be released until desired by the user.

3. A container assembly according to claim 1 or 2 particularly for housing a film cassette wherein the lid has an annular plug to embrace a part of the cassette top and a depending skirt to fit within the top of the body, light tight beads being provided respectively on the inside of the body and the outside of the skirt to cooperate to substantially prevent light entering the body and to provide a captive feature to hold the lid on to the body.

4. A container assembly according to claim 1 or 2 or 3 wherein to provide a tamper evident feature the lid has a locking plunger which depends substantially vertically when the lid is closed and which has lugs which project sideways and wherein the body has a tamper-evident tear-off strip which has an opening to receive the plunger when the lid is first closed.

5. A container assembly according to claim 4 wherein the plunger is of arrow head shape so that when the plunger is forced down into the opening in the tear strip the lugs engage below arms which connect the strip to the body whereby when in this position the lid cannot be opened until the tear strip has been torn away, a vertical slot preferably being provided in the plunger to assist the spring into locked position.

6. A container assembly according to claim 5 wherein the arms are connected to the body by frangible ribs or the like.

7. A container assembly according to any of the preceding claims wherein a thumb tab is provided by means of which the lid may be manipulated.

8. A container assembly comprising a container body which is substantially square in cross-section, a substantially light tight lid for the body hingedly connected thereto, a locking plunger of arrow head shape on the lid; which depends substantially vertically when the lid is closed, with lugs on the plunger which project sideways and a tamper-evident tear-off strip on the body with an opening or slot to receive the plunger when the lid is first closed, the arrangement being such that the plunger is self-locating in the opening or slot and the plunger is automatically locked in position as soon as the lugs on the plunger are seated below the bottom of the opening or slot in the tear-off strip.

9. A container assembly substantially as hereinbefore described with reference to the accompanying drawings.